

~~1 mole~~ 1 mole C atoms

$$= 6.022 \times 10^{23} \text{ C atoms}$$

equivalent 1 dozen eggs

$$= 12 \text{ eggs}$$

6,022,000,000,000,000,000,000

$$6.022 \times 10^{23}$$

for carbon 1 mol = 6.022×10^{23} atoms of C

$$1 \text{ mol} = 12.011 \text{ g}$$

atomic mass

$$\boxed{\frac{12.011 \text{ g}}{1 \text{ mole}}}$$

$$6.022 \times 10^{23} \text{ atoms N} = 1 \text{ mol N}$$

$$14.007 \text{ g N} = 1 \text{ mol N}$$

$$\frac{14.007 \text{ g N}}{1 \text{ mol N}}$$

6.83 g Fe how many mol Fe?

$$1 \text{ mol Fe} = 55.85 \text{ g Fe}$$

Q

$$\frac{55.85 \text{ g Fe}}{1 \text{ mol Fe}} = \frac{1 \text{ mol Fe}}{55.85 \text{ g Fe}}$$

Given

$$6.83 \text{ g Fe} \times \frac{1 \text{ mol Fe}}{55.85 \text{ g Fe}} = \frac{\text{want}}{\text{mol Fe}}$$

$$0.1222919 \text{ mol Fe}$$

$$0.122 \text{ mol Fe}$$

Q 2.6 mole Si $\frac{28.09 \text{ g Si}}{1 \text{ mol Si}}$ how many g Si?

22.1 g K \rightarrow mol K \rightarrow how many atoms

$$22.1 \text{ g K} \times \frac{1 \text{ mol K}}{39.107 \text{ g K}} \times \frac{6.022 \times 10^{23} \text{ atoms K}}{1 \text{ mol K}} = 1.33 \times 10^{25}$$

Average atoms #

$$3.40 \times 10^{23} \times 10^{23} = 3.40 \times 10^{46}$$